

1     Claims

2                     1.     An arrangement for connecting one end of a rod to a headed pin to enable  
3 driving engagement of said pin with said rod including:

4                     a housing defining a pin receiving cavity with retention features around said  
5 cavity engaging said headed pin so as to be retained therein;

6                     a soft elastomeric isolator interposed between said housing and said one end of  
7 said rod;

8                     said housing comprised of two pieces fit together and configured to enclose said  
9 vibration isolator and also said one end of said rod, said two pieces fixed together in assembling  
10 said housing.

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12                     2.     The arrangement according to claim 1 wherein said housing pieces are  
13 fixed together by snap fit prongs on one housing piece received in receptacles on the other  
14 housing piece.

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16                     3.     The arrangement according to claim 2 wherein said housing pieces are  
17 molded as one part, said housing pieces connected together with an integral hinge allowing said  
18 housing pieces to be swung together into abutment with each other and fit over said isolator.

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20                     4.     The arrangement according to claim 3 wherein said housing pieces each  
21 have a recess defined therein said recesses together forming a cavity when said housing pieces  
22 are assembled abutting each other enclosing said isolator.

1                   5.       The arrangement according to claim 4 wherein one end of said rod has a  
2 groove formed therein, and said isolator has a portion fit into said groove, said isolator having a  
3 groove formed therein, and said housing pieces each having a portion fit into said isolator groove  
4 when assembled together over said isolator.

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6                   6.       The arrangement according to claim 5 wherein said vibration isolator has a  
7 thickness of portions subjected to compression on the order of one millimeter.

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9                   7.       The arrangement according to claim 1 wherein said isolator is molded over  
10 said rod end.

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12                  8.       The arrangement according to claim 1 wherein said housing pieces are  
13 molded from a hard plastic.

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15                  9.       The arrangement according to claim 4 wherein said housing piece isolator  
16 receiving cavity has an interference fit with said isolator when said housing pieces are assembled.

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18                  10.      The arrangement according to claim 1 wherein said retention features  
19 comprise a prong on each housing piece projecting into said pin receiving cavity and being  
20 radially deflectable to be able to receive a headed portion on said pin and allow passage thereby,  
21 and engaging said head of said pin after passage past said prongs.

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1                    11.     The arrangement according to claim 9 wherein said prongs are each  
2     formed with an axially extending wall radially spaced from said core portion and also having a  
3     lip projecting inwardly from said wall having a sloping under surface engaged by said head on  
4     said pin to cause said radial deflection of said associated prong, and a flat surface engaging said  
5     head after said pin head has been inserted past said prongs to retain said pin in said cavity.

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7                    12.     The arrangement according to claim 1 wherein a web is formed on each  
8     housing piece extending over said cavity on one side to prevent insertion of said pin from said  
9     one side.

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11                  13.     A method of connecting one end of a rod to a headed pin, comprising the  
12     steps of:

13                    molding two hard plastic housing pieces each formed with two generally  
14     semicircular recesses, each housing piece able to be fit together to form a pin receiving cavity  
15     and an isolator receiving cavity;

16                    assembling said housing pieces to form said pin receiving cavity configured to  
17     receive said headed pin;

18                    pin retention features extending within said cavity so as to engage said headed pin  
19     upon insertion therein to retain the same;

20                    disposing a soft elastomeric isolator over said one end of said rod; and,

21                    enclosing said isolator with said housing pieces upon assembling said housing  
22     pieces by enclosing said isolator in said isolator receiving cavity upon assembling said housing

1 pieces together.

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3 14. The method according to claim 13 wherein said step of assembling said  
4 housing pieces includes the step of snap fitting said housing pieces together using integrally  
5 formed engaging features on said housing pieces.

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7 15. The method according to claim 14 further including the step of snap fitting  
8 said housing pieces together extending over said isolator on said rod.

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10 16. The method according to claim 15 further including the step of molding  
11 said isolator over said one end of said rod prior to assembling said housing pieces to be fit over  
12 said isolator.

13  
14 17. The method according to claim 13 further including the steps of molding  
15 said housing pieces together connected by an integral hinge allowing said housing pieces to be  
16 swung into abutment with each other with said recesses forming said cavities.

17  
18 18. The method according to claim 16 wherein in said step of molding said  
19 isolator to said one end of said rod, said isolator is formed with a thin wall on the order of one  
20 millimeter in thickness.

21  
22 19. The method according to claim 13 wherein said step of forming retention

1 features comprises the step of molding an integral prong in each of said hard plastic housing  
2 pieces extending radially inward into an associated recess configured so that after said housing  
3 pieces are assembled together, they may engage a head portion of said pin upon insertion thereof  
4 and be deflected radially outward thereby to allow passage of said head portion and to thereafter  
5 engage said head portion to retain the same in said cavity.

6  
7 20. The method according to claim 19 wherein said prong molding step  
8 includes forming a sloping under surface on said prongs to aid in producing radial outward  
9 deflection by passage of said pin head portion, and a flat surface on the end thereof engaging said  
10 pin head portion to resist extraction whereby a much greater force is required for extraction than  
11 for insertion of said pin.